AMENDMENT TO THE CLAIMS:

1. (Cancelled)
2. (Cancelled)
3. (Cancelled)
4. (Cancelled)
5. (Cancelled)
6. (Cancelled)
7. (Cancelled)
8. (Cancelled)
9. (Cancelled)
10. (Cancelled)
11. (Cancelled)
12. (Cancelled)
13. (Cancelled)
14. (Cancelled)
15. (Cancelled)
16. (New) An oil and water separator made more compact and efficient by unique internal structures comprising a horizontal cylindrical vessel closed on both ends with an inlet conduit at one end for receiving a constant flowing mixture of oil and water and an oil outlet conduit in the upper region and a water outlet conduit in the lower region of the other end for discharging water free oil and oil free water from said vessel and within said vessel intersecting said constant flowing mixture a

permeable baffle constructed in such a way as to apply the principle of capillary attraction to cause the non-continuous phase fluids to be separated from the continuous phase fluids and in cooperation with said permeable baffle a permeable barrier whereupon the permeability may be discretely adjusted on various locations of same said barrier to accommodate the variation of flow characteristics of said oil and said water maintaining a relative plug flow of each the said oil and said water thereby improving the separation process as the said mixture travels through the said vessel.

17. (New) The separator as described by claim 16 wherein the said cooperating permeable barrier is in the form of a louvered structure whereupon the louvers are rotatable and discretely variable in each of the areas through which the said oil and the said water flow.

18. (New) The separator as described by claim 17 where there are handles for rotating the louvers external to said separator connected to the rotatable louvered structure in a manner that the position of said handles will indicate the position of said louvers.

19. (New) The separator as described by claim 16 where in upstream relationship to said permeable baffle and said cooperating permeable barrier there may be placed in the path of said constant flowing mixture a heating element for the purpose of heating said mixture to reduce its viscosity.

20. (New) The separator of claim 19 where said heating element is in the shape of a horizontally oriented "U" with a burner attached on one end of said "U" and an exhaust stack attached on the other end, and constructed so that at least a portion of

the "U" side of said heating element to which said exhaust stack is attached has a multi-tube construction to increase the heat exchange surface on that portion of said heating element.

21. (New) An oil and water separator within which a constant flowing mixture of oil and water is treated to separate said oil and said water utilizing the well known technology of establishing an electric field inside of said separator through which the said mixture passes to cause coalescence of said water mixed with said oil for faster separation comprising a horizontal cylindrical vessel closed on both ends with an inlet conduit at one end for receiving said mixture and an oil outlet conduit in the upper region of the other end establishing the top level of the oil and for delivering water free oil from said separator and a water outlet conduit in the lower region of said other end for delivering oil free water from said separator and within said separator a distinct interface of the said oil and said water said vessel made more compact and efficient by the incorporation of unique internal structures including intersecting said constant flowing mixture in proximity of said electric field a first solid partial baffle having its top edge below said top level of said oil and its bottom edge below said distinct interface and a second solid partial baffle in downstream relationship to said first baffle with its top edge above said top level of said oil and its bottom edge above said distinct interface the purpose of said first and second solid partial baffles being to route said constant flowing mixture in a downward direction through said electric field and traversing the cross section of the space formed by said first baffle and said second baffle and the sidewall of said cylindrical vessel at least one permeable baffle upon which the

permeability can be regulated to adjust for variations in the flow characteristics of said constant flowing mixture.

22. (New) The oil and water separator of claim 21 including located within said vessel and in upstream relationship to said first and second solid partial baffles within the flow path of said constant flowing mixture of oil and water a horizontally oriented U shaped firetube with a burner attached to one end and an exhaust stack on the other end and including on the portion of the of said firetube to which said exhaust stack is attached a multi-tube section for the purpose of increasing the heat exchange surface area on said section.

23. (New) The oil and water separator of claim 21 including traversing the flow path of said constant flowing mixture of oil and water and in downstream relationship to said first and second solid partial baffles a permeable baffle constructed in a manner to apply the principle of capillary attraction in cooperation with a permeable barrier upon which the permeability is discretely adjustable in various locations of same said permeable barrier to compensate for variations in the flow characteristics of said constant flowing mixture.

24. (New) The oil and water separator of claim 21 wherein there are two permeable barriers one above the other traversing said cross section of said space formed by said first and second solid partial baffles and said side wall of said vessel the uppermost located at said top edge of said first baffle and the lowermost located at said bottom edge of said second baffle.

25. (New) The oil and water separator of claim 24 whereby the said two permeable barriers are of a rotatable louver construction and including external to said vessel side wall a handle that is connected to said rotatable louver structure in a manner that said handle can be used to rotate the louvers and at the same time will indicate the angle to which the louvers are rotated.

26. (New) An oil and water separator receiving a constant flowing mixture of oil and water for the purpose of separating said mixture and delivering from said separator water free oil and oil free water wherein the well known technology of passing said mixture through an electric field to coalesce the water for faster separation is utilized made more compact and efficient through the application of novel internal structures comprising a horizontal cylindrical vessel closed on both ends with an inlet near one end an oil outlet in the upper region of said vessel at the other end for establishing the top level of the oil and discharging said oil and in the lower region of said vessel at said other end a water outlet and within said vessel is maintained a distinct water and oil interface and intersecting the flowing mixture in proximity to said electric field a first solid partition having its top edge below the said top level of the oil and its bottom edge below the said water and oil interface and a second solid partition having its top edge above said top level of the oil and its bottom edge above the said water and oil interface and traversing the cross section of the space formed by the said first and second solid partitions and the sidewall of the said vessel two permeable barriers of rotatable louver construction positioned one above the other with the top permeable barrier located at the top edge of said first partition and the lower permeable barrier located at the bottom edge of said second partition said louver structure being

connected to a handle that is external to said vessel side wall in a manner that said louvers can be rotated by said handle and said handle will indicate the angle to which the louvers are rotated and in downstream relationship to said first and second solid partitions in the flow path of said constant flowing mixture a permeable baffle constructed in a manner to apply the principle of capillary attraction and in cooperation with the said permeable baffle a permeable barrier of rotatable louver construction having the louvers connected to handles exterior to said vessel side wall in a manner that said louvers can be independently rotated using said handles to discretely vary the permeability of said barrier at various areas of said barrier to compensate for different flow characteristics of said constant flowing mixture with said handle indicating the angle to which the louver is rotated.